

CLAIMS

We claim:

1. A computer network dispatcher comprising:

one or more memories;

5 one or more inputs for accessing one or more files from a database stored in the memory;

one or more outputs to one or more respective network buffers;

one or more file lists, stored in one or more of the memories, identifying one or more of the files in the database that are to be transmitted over one or more networks connected to the respective network buffer;

10 one or more schedulers that schedules one or more portions of one or more of the files to be written to the respective network buffers by defining transmission criteria about each of the files in the file list, one of the transmission criteria being a quantity to transmit criteria defining a quantity of one or more of the portions of the respective file to transmit and another of the transmission criteria being one or more release times being the time at which the respective

15 portion is to be written to the network buffer;

a dispatching process that determines an available space on one or more of the network buffers and a current system time, the dispatching process determining if the system time is greater than or equal to one of the release times and the dispatching process taking a minimum value of the available space and the quantity of the respective portion, the dispatching process writing the

20 minimum value of the respective portion to one or more of the network buffers; and

a feedback using a quantity completion measure to estimate a completion time of the writing of the respective portion to the respective network buffer, and the scheduler rescheduling one or more of the portions if one or more of the portions can not be scheduled to meet the respective transmission criteria.

5 2. A dispatcher, as in claim 1, where the rescheduling changes the transmission criteria of one or more of the portions.

3. A dispatcher, as in claim 2, where the changes to the transmission criteria include any one or more of the following: changing one or more release times, changing one or more of the quantities, removing one or more of the transmission criteria, and adding one or more

10 transmission criteria.

4. A network dispatcher, as in claim 1, where the available space is influenced by any one or more of the following: a network speed, a network bandwidth, a network congestion, a time of network availability, a duration of network availability, and a network use pricing.

5. A network dispatcher, as in claim 1, where the transmission criteria further include any one or
15 more of the following: a duration, a burst rate, and a burst size.

6. A network dispatcher, as in claim 5, where duration establishes an end time beyond which no more of the portion is written to the network buffer.

7. A network dispatcher, as in claim 5, where the portion is partitioned into quantities of a size equal to the burst size and each quantity is written to the respective network buffer at a time

5 interval equal to the burst rate.

8. A network dispatcher, as in claim 1, where the file list further identifies one or more destination addresses of one or more recipients.

9. A network dispatcher, as in claim 1, where the file list further identifies one or more transmission types defining how the portion is sent over the network.

10 10. A network dispatcher, as in claim 9, where the transmission types include one or more of the following: unicast, multicast, broadcast, internet protocol (IP), IPX, asynchronous transfer mode (ATM), UDP, and TCP/IP.

11. A network dispatcher, as in claim 1, where the quantity completion measure is any one or more of the following: an accumulated amount of one or more of the portions transmitted, and an
15 amount of the portion transmitted.

19. A network dispatcher, as in claim 1, further comprising a network use criteria table used by the dispatching process to take the minimum value of the available space, the quantity of the respective portion, and a remaining amount of defined network use.

20. A network dispatcher, as in claim 18, where the network use criteria table has a plurality of
5 records, each record containing a time stamp field and an amount of network use field.

21. A network dispatcher, as in claim 20, where an aggregate of the amount of network use is recorded in a history log.

22. A network dispatcher, as in claim 1, further comprising an status indicator for sending one or more acknowledgments to one or more schedulers indicating one or more of the portions have
10 been entirely transmitted over the network.

23. A method for dispatching network transmissions comprising the steps of:

selecting one or more scheduled portions of files that have a release time for transmission over the network;

determining an available space on one or more network buffers and a current system time;

15 determining if a system time is greater than or equal to the release times;

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taking a minimum value of an available space and a quantity of respective scheduled portions;
writing the minimum value of the respective portion to one or more of the network buffers; and
feeding back a quantity completion measure to estimate a completion time of the writing of the
respective portion to the respective network buffer, and one or more of the portions being
5 rescheduled if one or more of the portions can not be scheduled to meet one or more transmission
criteria.

24. A method, as in claim 23, where the quantity completion measure includes any one or more
of the following: a history statistic, a complete mark, an active status mark, and a quantity
written, and an accumulated amount of one or more of the portions transmitted.

10 25. A method, as in claim 23, further comprising the step of time stamping one or more of the
quantity completion measures.

26. A computer network dispatcher comprising:

means for selecting one or more scheduled portions of files that have a release time for
transmission over the network;

15 means for determining an available space on one or more network buffers and a current system
time;

means for determining if a system time is greater than or equal to the release times;

means for taking a minimum value of an available space and a quantity of respective scheduled portions;

means for writing the minimum value of the respective portion to one or more of the network buffers; and

- 5 means for feeding back a quantity completion measure to estimate a completion time of the writing of the respective portion to the respective network buffer, and one or more of the portions being rescheduled if one or more of the portions can not be scheduled to meet one or more transmission criteria.

27. A computer program product which performs the steps of:

- 10 selecting one or more scheduled portions of files that have a release time for transmission over the network;

determining an available space on one or more network buffers and a current system time;

determining if a system time is greater than or equal to the release times;

taking a minimum value of an available space and a quantity of respective scheduled portions;

- 15 writing the minimum value of the respective portion to one or more of the network buffers; and

feeding back a quantity completion measure to estimate a completion time of the writing of the respective portion to the respective network buffer, and one or more of the portions being rescheduled if one or more of the portions can not be scheduled to meet one or more transmission criteria.